

**ABSTRACT OF THE DISCLOSURE****METHOD AND APPARATUS FOR AUTONOMICALLY INITIATING  
MEASUREMENT OF SECONDARY METRICS BASED ON HARDWARE  
COUNTER VALUES FOR PRIMARY METRICS**

A method, apparatus, and computer instructions in a data processing system for processing instructions are provided. Instructions are received at a processor in the data processing system. If a selected indicator is associated with the instruction, counting of each event associated with the execution of the instruction is enabled. Functionality may be provided in the performance monitoring application for initiating the measurement of secondary metrics with regard to identified instructions, data addresses, ranges of identified instructions, or ranges of identified data addresses, based on counter values for primary metrics. Thus, for example, when a primary metric counter, or a combination of primary metric counters, meets or exceeds a predetermined threshold value, an interrupt may be generated. In response to receiving the interrupt, counters associated with the measuring of secondary metrics of a range of instructions/data addresses may be initiated.